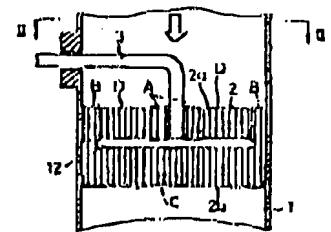


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(54) ELECTRIC HEATING TYPE CATALYST DEVICE  
(11) 5-171928 (A) (43) 9.7.1993 (19) JP  
(21) Appl. No. 3-339138 (22) 21.12.1991  
(71) TOYOTA MOTOR CORP(1) (72) HIROSHI HIRAYAMA(4)  
(51) Int. Cl. F01N3/20, B01J35/02, B01J35/04, F01N3/24, F01N3/28

**PURPOSE:** To manufacture a core of a catalyst converter easily, and assemble it easily.

**CONSTITUTION:** A flat foil and a corrugated foil are overlapped on each other and rolled spirally to form a core 2. In the flat foil and the corrugated foil, a slit extending from an end part of their length along the length is formed, so by rolling the flat foil and the corrugated foil spirally, they are connected to each other at peripheral parts, while at a center part, a pair of core parts 2a, 2b having an interval from each other are formed. An inner end part of the core part 2a is connected to an electrode 3, so the core part 2a is heated electrically. In the meanwhile, a current does not flow to the core part 2b, so the core part 2b is not heated electrically.

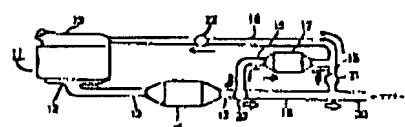


**(5-1) EXHAUST EMISSION CONTROL DEVICE FOR INTERNAL COMBUSTION ENGINE**

(11) 5-171929 (A) (43) 9.7.1993 (19) JP  
(21) Appl. No. 3-343196 (22) 25.12.1991  
(71) NISSAN MOTOR CO LTD (72) MIKIO MATSUMOTO  
(61) Int. Cl. F01N3/24

**PURPOSE:** To activate catalyst speedily, and trap unburnt gas only with adsorption material effectively by disposing a passage part for having the unburnt gas adsorption material in an exhaust passage downstream of the catalyst.

**CONSTITUTION:** When catalyst 14 is cold at the time of starting an engine 11 or the like, a flow passage changing valve 20 is changed to a position where an exit part of the catalyst 14 and a first branch passage part 15 only communicate with each other. A flow passage switching valve 21 is also released at the same time. Exhaust is purified in the catalyst 14, while the unburnt gas in unpurified exhaust is guided through the first branch passage part 15 to the adsorption material 17 to be trapped. In the meanwhile, after the catalyst 14 is heated and activated, the flow passage changing valve 20 is changed to the position where the exit of the catalyst 14, and both of the first and second branch passage parts 15, 16 communicate with each other. Simultaneously, the flow passage switching valve 21 is closed. An exhaust heat quantity for heating the catalyst 14 can thus be secured sufficiently, and the unburnt gas only can be trapped by the adsorption material 17 effectively.

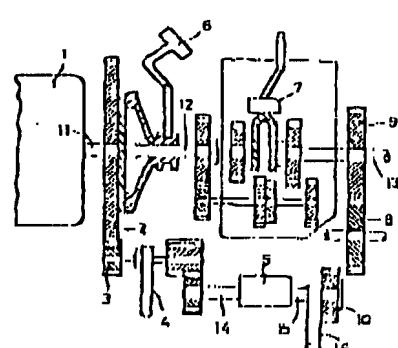


(54) ENERGY RECOVERING DEVICE

(11) 5-171930 (A) (43) 9.7.1993 (19) JP  
(21) Appl. No. 3-354292 (22) 20.12.1991  
(71) ISUZU MOTORS LTD (72) KATSUNORI HIRAI  
(51) Int. Cl. F01N5/04, H02K23/52

**PURPOSE:** To provide an energy recovering device in which a recovering motor is provided with a function of a starter and a function of supplying driving force to a drive shaft by changing gears in starting an engine and transmitting power.

**CONSTITUTION:** An energy recovering device comprises recovering motor 5 disposed in a power transmission system bypassing a transmission 7, and the recovering motor 5 is provided with a gear for starting which can be connected to an engine 1, and a gear 10 for power transmission which can be connected to a drive shaft. At starting the engine 1, the gear 3 for starting is connected to the engine 1 by a connection means 4, and at transmission of power, the gear 10 for power transmission is connected to the drive shaft 13 rearward of the transmission 7 by a connection means 16. The recovering motor 5 has a function of a starter motor and a function of returning a recovered energy to a drive system.



(19)日本特許庁 (JP)

## (12) 公開特許公報 (A)

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F01N 3/21類別記号  
E 9150-3G  
N 9150-3G  
S 9150-3G

F1

技術表示箇所

(21)出願番号 特願平3-343196

(22)出願日 平成3年(1991)12月25日

(71)出願人 000003997

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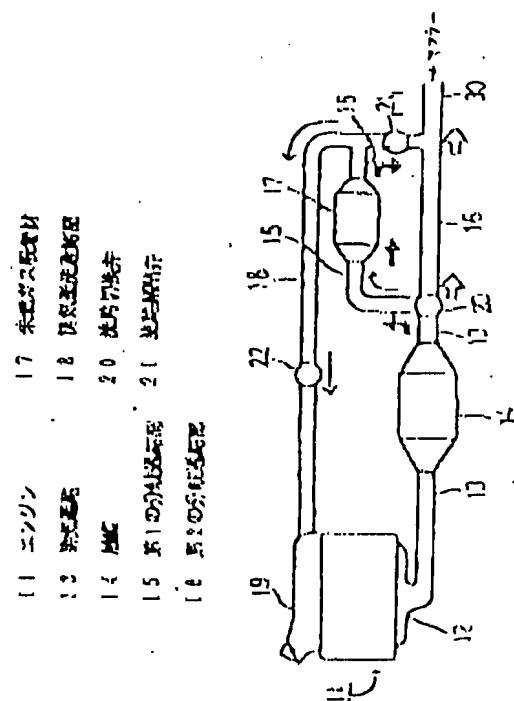
(74)代理人 斎藤士 佐島 高二

(51)【発明の名称】 内燃機関の排気浄化装置

(57)【要約】

【目的】 内燃機関において、排気浄化性能を向上することを目的とする。

【構成】 エンジン11の始動時等の触媒14の冷間時には、排気を触媒14に流通して活性化処理し、活性化されなかった排気中の未燃ガスを全て第1の分岐通路部15を介して吸音材17に導き、排気中の未燃ガスをトラップさせる。触媒14が昇温して活性化した後は、排気を触媒14に流通して活性化処理した後、第1の分岐通路部15と第2の分岐通路部16の所方に通し、第2の分岐通路部16を流れた排気をそのまま出し、第1の分岐通路部15を流れた排気により吸音材17においてトラップした未燃ガスを離脱し排気道流通路18からインテークマニホールド19に導入させ再燃焼させる。



(5)

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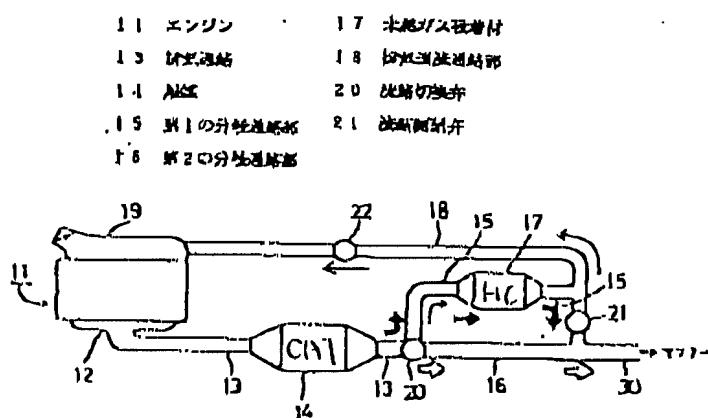
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## 【元件の説明】

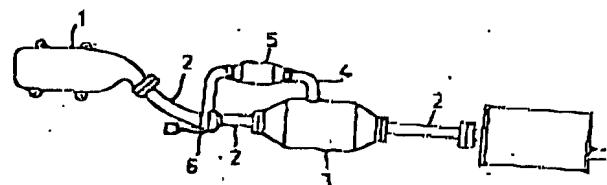
- 1 1 エンジン
- 1 3 排気通路
- 1 4 油管
- 1 5 第1の分岐通路部
- 1 6 第2の分岐通路部
- 1 7 未燃ガス吸着材

- 1 8 排気道流通部
- 2 0 流路切換弁
- 2 1 流路開閉弁
- 2 3 流路切換弁
- 2 4 流路切換弁
- 2 5 第3の分岐通路部

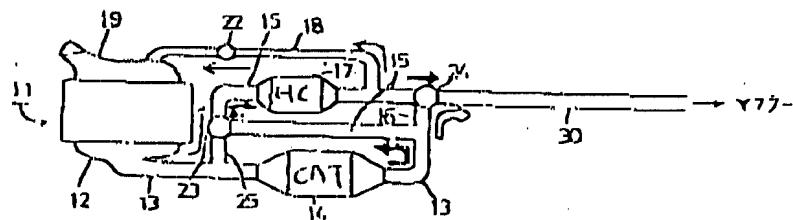
【図1】



【図4】



【図2】



(6)

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〔図3〕

